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# Multi-Hazard Mitigation Plan

## 4.3 Capability Assessment

An additional method of evaluating the potential for hazards to adversely impact Metropolitan Nashville-Davidson County, is through conducting an inventory and analysis of the community's existing mitigation capabilities. Doing so provides an assessment of how well-prepared Metro is presently, and highlights any areas where improvements might be worthwhile. The term "mitigation capabilities" is meant to be inclusive of all existing policies, regulations, procedures, and abilities that already contribute to the protection of the Metro area and the minimization of damages from future disasters.

The intent of the CPT, through this plan, here is to first, identify those policies, regulations, procedures, and abilities that contribute to lessening disaster damages. Second, it is the intent of the CPT to evaluate these mechanisms in terms of whether they could be improved in order to reduce future disaster damages. For example, a community that has adopted building codes has adopted procedures that take a significant step in preventing future damage. However, if that community does not have a Building Official, someone whose responsibility it is to inspect pre-construction plans, new construction, and enforce penalties for projects that do not meet the code, then the *usefulness and effectiveness* of that Building Code has been substantially undermined. Such a circumstance – which is NOT the case within Metropolitan Nashville-Davidson County would lead the CPT towards recommending that the position of Building Inspector be funded and filled.

The following matrix captures the inventory of existing mitigation capabilities within Metropolitan Nashville-Davidson County. An evaluation of key capabilities follows.

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**Table 4-32. Metropolitan Nashville-Davidson County Capability**

Capability	Metropolitan Nashville-Davidson County
Comprehensive Plan	Land Use Policy Plan – Divided by designated sub-areas within Davidson County. Updated on a rotating sub-area schedule.
Land Use Plan	
Subdivision Ordinance	Subdivision Regulation administered by the Planning Department
Zoning Ordinance	Metro Code – Title 17
NFIP/FPM Ordinance	Ordinance #78-840
Floodway Buffer Ordinance	50' outside Floodway
- Map Date	2001
- Substantial Damage language?	Cumulative Substantial Damage
- Certified Floodplain Manager?	No Certified Floodplain Managers (CFM) through the Association of State Floodplain Managers (ASFPM)
- # of Floodprone Buildings?	Approximately 10,000 bldg footprints within floodplain
- # of NFIP policies	Approximately 2,785 policies in force
- Maintain Elevation Certificates?	Yes
- # of Repetitive Losses?	70 structures; 1,000 structures identified in repetitive loss areas
CRS Rating, if applicable	9
Stormwater Program?	Yes
Building Code Version	2000 IRC; 2000 IBC
Full-time Building Official	Yes, Metro Codes Department
- Conduct "as-built" Inspections?	At time of framing an elevation certificate is required
BCEGS Rating	Commercial – 4; Residential – None
Local Emergency Operations Plan	Yes
Hazard Mitigation Plan	Yes
Warning System in Place?	Yes
- Storm Ready Certified?	Yes
- Weather Radio reception?	100 % with back-up transmitter
- Outdoor Warning Sirens?	Yes
- Emergency Notification (R-911)?	Yes
- Other? (e.g., cable over-ride)	Yes cable over-ride; EAS message; FCC requirement No – for satellite TV homeowners
GIS System?	Yes – Metro and NES
- Hazard Data?	Floodplains, parcels, soils
- Building footprints?	Yes
- Tied to Assessor data?	Yes
- Land-Use designations?	Yes, within parcel data – different than zoning code
Structural Protection Projects	Levees – MetroCenter and Opryland
Property Owner Protection Projects	Buyouts and Elevations; Flood protection/ retrofit not typical
Critical Facilities Protected?	Water Treatment plants – yes; Sewage Treatment plants – no Program in place to upgrade to submersible pumps
Natural Resources Inventory?	TDEC has database – wetlands, endangered species, tree cover; hyperspectral also available
Cultural Resources Inventory?	Yes – Historic Administration; Information should be parcel based
Erosion Control procedures?	Yes – Regulations
Sediment Control procedures?	Yes – Regulations
Public Information Program/Outlet	Billing Stuffers; Website – MWS has Public Information Officer; meet
Environmental Education Program?	NPDES public information requirements.

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## Explanation of Capability Assessment Matrix

**Comp Plan:** Comprehensive Long-Term Community Growth Plan

**Land Use Plan:** Designates type of Land Use desired/required – Comprised of Zoning

**Subdivision Ordinance:** Regulates platting, recording, infrastructure improvement

**Zoning Ordinance:** Dictates type of Use and Occupancy, lot sizes, density, set-backs, and construction types, Implements Land Use Plan

**NFIP/FPM Ord:** Floodplain Management Ordinance: Directs development in identified Flood Hazard Areas. Required for Participation in NFIP and Availability of Flood Insurance

**Sub. Damage:** Does your FPM Ordinance contain language on Substantial Damage/Improvements? (50% rule)

**Administrator:** Do you have a Floodplain Management Administrator (someone with the responsibility of enforcing the ordinance and providing ancillary services (map reading, public education on floods, etc.)

**# of FP Bldgs:** How many buildings are in the Floodplain?

**# of policies:** How many buildings are insured against flood through the NFIP?

**# of RL's:** # of Repetitive Losses: (Paid more than \$1,000, twice in the past 10 years)

**CRS Rating:** Are you in the Community Rating System of the NFIP, and if so, what's your rating?

**BCEGS:** Building Code Effectiveness Grading System Rating

**LEOP:** Do you have a Local Emergency Operations Plan – a disaster RESPONSE plan

**HM Plan:** Do you have a Hazard Mitigation Plan

**Warning:** Do you have any type of system, such as:  
“Storm Ready” Certification from the National Weather Service  
NOAA Weather Radio reception  
Sirens? Cable (TV) Override? “Reverse 911”?

**GIS:** Geographic Information System

**Structural Protection Projects:** (levees, drainage facilities, detention/retention basins)

**Property Protection Projects:** (buy-outs, elevation of structures, floodproofing, small "residential" levees or berms/floodwalls)

**Critical Facility Protection:** (for example, protection of power substations, sewage lift stations, water-supply sources, the EOC, police/fire stations, medical facilities ... that are at risk ... e.g., in the floodplain)

**Natural And Cultural Inventory:** Do you have an inventory of resources, maps, or special regulations within the community? (wetlands and historic structures/districts, etc.)

**Erosion Or Sediment Control:** Do you have any projects or regulations in place?

**Public Information And/Or Environmental Education Program:** Do you have an ongoing program even if it's primary focus is not hazards? Examples would be "regular" flyers included in city utility billings, a website, or an environmental education program for kids in conjunction with Parks & Recreation?)

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## Evaluation of Existing Capabilities identified through the Matrix

Overall, the existing policies and procedures for implementing and accomplishing mitigation are both strong and comprehensive. This analysis has, though, highlighted several issues for the CPT to consider addressing through Plan recommendations. The issues are described below:

- Metro participates in the National Flood Insurance Program. However, there are approximately 10,000 parcels with structures located within the floodplain and there are only 2,785 flood insurance policies currently in force. This represents approximately 35 percent of the floodplain parcels.
- Metro joined the Community Rating System (CRS) in 1991 based on the activities undertaken by the Department of Public Works. Metro was able to obtain enough credit points to attain a Class 9, the entry-level class. With the reorganization of the MWS Stormwater Division to Metro Water Services, Metro devoted increased resources to many activities that can be credited by the CRS. The CRS Action Plan, prepared to determine what would be needed to improve Metro's CRS rating, provides the opportunity to capture additional CRS credits.
- Metro's level of improvement in the Community Rating System is limited within Metro by the Building Code Effectiveness Grading Schedule (BCEGS). Without a rating for residential plan review, the CRS program cannot improve beyond a rating of 8. The BCEGS program has recently been updated to reflect new policies in scoring residential plan review. It is recommended that Metro research the potential residential BCEGS increase in ranking based upon the updated policies.

Of note, the annual impact of the premium discount for various CRS classes for Metro is shown below. This is based on 2,785 policies in force. Properties in Metro have been paid 936 flood insurance claims for a total of \$5.5 million.

Class 9:	\$53,851
Class 8:	\$107,703
Class 7:	\$161,554
Class 6:	\$215,406
Class 5:	\$269,258

## Other Existing Mitigation Capabilities within Metro

Several significant mitigation programs are underway in Metropolitan Nashville-Davidson County that further strengthen the existing level of community protection against hazards and reduce future losses from disasters.

- Metro's cumulative Substantial Damage Ordinance is a notable effort to utilize the NFIP to minimize future damages to existing structures.



- Metro's floodplain ordinance requiring construction at the Base Flood Elevation (BFE) plus four feet is a notable effort to use the NFIP to minimize future damages to new and substantially improved structures.
- CERT – Community Emergency Response Team. Operated through the Mayor's Office of Emergency Management, CERT Training allows citizens to manage utilities, put out small fires, search for and rescue victims safely, triage the victims, and organize themselves and spontaneous volunteers to be effective in aiding victims.
- American Red Cross provides shelter for flood victims, cooling and heating shelters for victims during extreme temperatures, as well as public information brochures and presentations on multiple natural hazards.
- The Tennessee Valley Authority (TVA) and the Nashville Electric Service (NES) Emergency Load Curtailment Plan – a pre-stated contingency plan for use in the event of emergencies resulting from the shortage of power or other causes.
- NES Vegetation Management Plan – NES has developed a vegetation management plan to trim trees throughout the entire service area with the goal of improving service reliability, through the use of proper tree trimming techniques.
- Critical Lots – According to the Subdivision Regulations, lots are designated critical during the preliminary plat review process based on soil conditions and degree of slope or other lot features, to address concerns related to the feasibility of construction. Reviewers emphasize that a typical house design may not be suitable for a critical lot. A critical lot usually requires a design that is specifically for that lot. Generally, a lot will be designated critical when it is created on an up-slope greater than 15 percent or a down or cross-slope greater than 20 percent grade.

Prior to submission of an application for a building permit on a lot designated as critical, a plan shall be submitted to the Planning Commission staff for approval. The plan shall provide a survey of existing conditions and details of the proposed development on the lot. No clearing or grading may take place prior to approval of the critical lot plan and issuance of a building permit.

- Flood Hazard Barricades – There are several areas within the Metro area that are barricaded during heavy rainfall or flooding events to prevent residents from driving through standing flood waters. These areas include:

*Mill Creek*

- Bluff Road – from Nolensville Pike to Davidson County Line;
- Culbertson Road – from Nolensville Pike to Old Hickory Boulevard.;
- Blue Hole Road – from Una-Antioch Pike to Tusculum Road; and
- Una-Antioch Pike – from Reeves Road to Hickory Hollow Parkway.



The U.S. Army Corps of Engineers, Nashville District, is currently performing a detailed hydrologic and hydraulic study of the Mill Creek watershed.

*Dry Fork Creek*

- Stewarts Ferry Pike – from South New Hope Road to Earhart Road.

*Harpeth River*

- Newsom Station Road at Highway 70 – flooding at bridge crossing;
- Old Harding Pike – from Harpeth River Bridge to Poplar Creek Road; and
- Coley-Davis – barricading only required occasionally.

*McCrory Creek*

- Elm Hill Pike - near Interstate 40 bridge. This is also adjacent to an identified repetitive loss area along McCrory Creek.

The MWS Stormwater Division Maintenance Staff members are responsible for placing the temporary barricades at the locations described above. This duty is not currently tied to specific flood heights, only to subjective determinations during rainfall events.

- Homeowner Direct Mailings – MWS distributes a notice to all properties located within the 100-year floodplain, which affects approximately 10,000 residents. The notice clearly explains that the recipient’s property is subject to flooding and includes a phrase such as “your property is in or near the floodplain.”

The pamphlet presents an map of the specific residence and floodplain. The pamphlet also includes information on elevation certificates and narrative information concerning covering such topics as flood safety, flood insurance, property protection measures, floodplain development permit requirements, cumulative substantial improvement policy, drainage system maintenance, natural and beneficial functions of the floodplain, and illicit discharges.

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